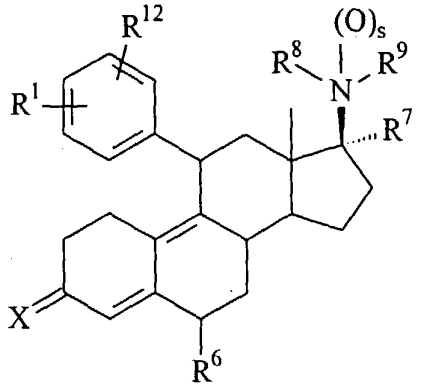
WHAT IS CLAIMED AS NEW AND DESIRED TO BE SECURED BY LETTERS PATENT OF THE UNITED STATES IS:

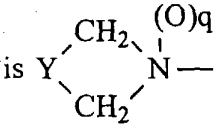
1. A hormonal or antihormonal steroid compound of structure I,



(I)

wherein

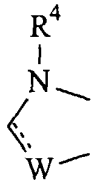
R^1 is $(R^2\ R^3\ N(O)_r)$-, where r is 0 or 1 and R^2 and R^3 are each independently H, C_{1-6} alkyl, C_{3-8} cycloalkyl, C_{2-6} alkenyl or C_{2-6} alkynyl, any of which may be optionally substituted; or

R^1 is  , where q is 0 or 1, Y is $-(CH_2)_m-$ where m is an integer of 0 to 5, or Y is $-(CH_2)_n-Z-(CH_2)_p-$ where n is an integer of 0 to 2, p is an integer of 0 to 2, and Z is a heteroatom (optionally substituted) and where any of the CH_2 groups may be optionally substituted; or

R^1 is N-imidazolyl,- N-pyrrolyl-, H, halo-, HO-, CF_3SO_2O-, C_{1-6} alkyl-O-, C_{1-6} alkyl-S-, C_{1-6} alkyl-S(O)-, C_{1-6} alkyl-$S(O_2)$-, C_{1-6} alkyl-CO-, C_{1-6} alkyl-CH(OH)-, NC-, HCC-, C_6H_5CC-, 2'-furyl, 3'-furyl, 2'-thiophenyl, 3'-thiophenyl, 2'-pyridyl, 3'-pyridyl, 4'-pyridyl, 2'-thiazolyl, 2'-N-methylimidazolyl, 5'-pyrimidinyl, C_6H_5-, H_2C=CH-, C_{1-6} alkyl, or MeC(=CH_2)-;

R^{12} is H or halo; or

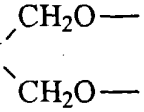
R^1 and R^{12} combine to form a ring



where W is CH_2, CH, NH, N, O, or S, and R^4 is H or C_{1-6} alkyl;

X is O or NOR^5, where R^5 is H or C_{1-6} alkyl, C_{3-8} cycloalkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{6-12} aryl, or heteroaryl, any of which may be optionally substituted; or

X is (H, H), (H, OH) , (H, OSi(C_{1-6} alkyl)$_3$), or (H, $OCOR^5$), where R^5 is C_{1-6} alkyl, C_{3-8} cycloalkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{6-12} aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl or heteroaralkynyl , any of which may be optionally substituted; or

X is  , where Y is -$(CH_2)_m$- where m is an integer of 0 to 3, or Y is -$(CH_2)_n$-Z-$(CH_2)_p$- where n is an integer of 0 to 2, p is an integer of 0 to 2 and Z is a heteroatom (optionally substituted) or Z is a carbon atom substituted with one or two C_{1-6} alkyl groups;

R^6 is H, C_{1-6} alkyl or halogen;

R^7 is H, C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-8} cycloalkyl, C_{6-12} aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl or heteroaralkynyl, any of which may be optionally substituted, CN, $COOR^{10}$ or $CONHR^{10}$, where R^{10} is H, C_{1-18} alkyl, C_{2-18} alkenyl, C_{2-18} alkynyl, C_{3-8} cycloalkyl, C_{6-12} aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl or heteroaralkynyl, any of which may be optionally substituted;

s is 0 or 1;

R^8 and R^9 are each independently H, C_{1-6} alkyl, C_{2-6} alkenyl or C_{2-6} alkynyl, $R^{10}CO$, OR^{11}, any of which may be optionally substituted,

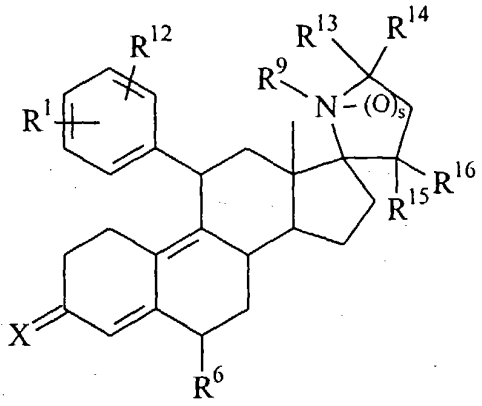
where R^{10} is H, C_{1-18} alkyl, C_{2-18} alkenyl, C_{2-18} alkynyl, C_{3-8} cycloalkyl, C_{6-12} aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl or heteroaralkynyl any of which may be optionally substituted, and

where R^{11} is H, C_{1-6} alkyl, $Si(C_{1-6}$ alkyl$)_3$, 2'-tetrahydropyranyl or $R^{10}CO$ where R^{10} is as defined above; and

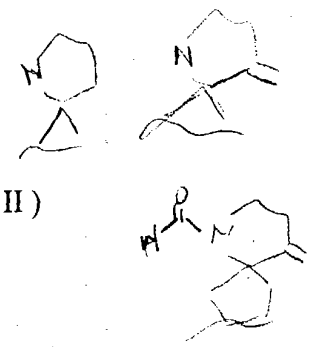
wherein when s is 0, R^8 may also be O^- and R^9 is $=CH_2$ or $=C(H, C_{1-6})$, $=C(H,$ aryl) or $=C(C_{1-6})_2$ and the nitrogen attached to the 17-position is positively charged;

and pharmaceutically acceptable salts thereof.

2. A hormonal or antihormonal steroid compound of structure II,

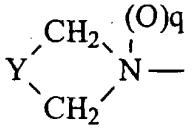


(II)



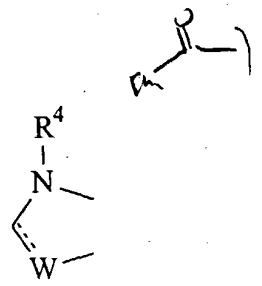
wherein

R^1 is $(R^2 R^3 N(O)_r)$-, where r is 0 or 1 and R^2 and R^3 are each independently H, C_{1-6} alkyl, C_{3-8} cycloalkyl, C_{2-6} alkenyl or C_{2-6} alkynyl, any of which may be optionally substituted; or

R^1 is  , where q is 0 or 1, Y is $-(CH_2)_m-$ where m is an integer of 0 to 5, or Y is $-(CH_2)_n-Z-(CH_2)_p-$ where n is an integer of 0 to 2, p is an integer of 0 to 2, and Z is a heteroatom (optionally substituted) and where any of the CH_2 groups may be optionally substituted; or

R^1 is N-imidazolyl,- N-pyrrolyl-, halo-, HO-, CF_3SO_2O-, C_{1-6} alkyl-O-, C_{1-6} alkyl-S-, C_{1-6} alkyl-S(O)-, C_{1-6} alkyl-$S(O_2)$-, C_{1-6} alkyl-CO-, C_{1-6} alkyl-CH(OH)-, NC-, HCC-, C_6H_5CC-, 2' -furyl, 3'-furyl, 2'-thiophenyl, 3'-thiophenyl, 2'-pyridyl, 3'-pyridyl, 4'-pyridyl, 2'-thiazolyl, 2'-N-methylimidazolyl, 5'-pyrimidinyl, C_6H_5-, $H_2C=CH-$, C_{1-6} alkyl, or $MeC(=CH_2)-$;

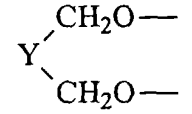
R^{12} is H or halo; or

R^1 and R^{12} combine to form a ring 

where W is CH_2, CH, NH, N, O, or S, and R^4 is H or C_{1-6} alkyl;

X is O or NOR^5, where R^5 is H or C_{1-6} alkyl, C_{3-8} cycloalkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{6-12} aryl, or heteroaryl, any of which may be optionally substituted; or

X is (H, H), (H, OH) , (H, $OSi(C_{1-6}$ alkyl$)_3$), or (H, $OCOR^5$), where R^5 is C_{1-6} alkyl, C_{3-8} cycloalkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{6-12} aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl or heteroaralkynyl , any of which may be optionally substituted; or

X is  , where Y is $-(CH_2)_m-$ where m is an integer of 0 to 3, or Y is $-(CH_2)_n-Z-(CH_2)_p-$ where n is an integer of 0 to 2, p is an integer of 0 to 2 and Z is a heteroatom (optionally substituted) or Z is a carbon atom substituted with one or two C_{1-6}

alkyl groups;

R^6 is H, C_{1-6} alkyl or halogen;

s is 0 or 1;

R^9 is H, C_{1-6} alkyl, C_{2-6} alkenyl or C_{2-6} alkynyl, $R^{10}CO$, OR^{11}, any of which may be optionally substituted,

where R^{10} is H, C_{1-18} alkyl, C_{2-18} alkenyl, C_{2-18} alkynyl, C_{3-8} cycloalkyl, C_{6-12} aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl or heteroaralkynyl any of which may be optionally substituted, and

where R^{11} is H, C_{1-6} alkyl, $Si(C_{1-6}$ alkyl$)_3$, 2'-tetrahydropyranyl or $R^{10}CO$ where R^{10} is as defined above;

R^{13} and R^{14} are each independently H, C_{1-18} alkyl, C_{2-18} alkenyl, C_{2-18} alkynyl, C_{3-8} cycloalkyl, C_{6-12} aryl, aralkyl, aralkenyl or aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl or heteroaralkynyl, any of which may be optionally substituted; or R^{13} R^{14} is O, and

R^{15} and R^{16} are each H or combine to form a group $=CH_2$, optionally substituted,

and pharmaceutically acceptable salts thereof.

3. The steroid having structure I of claim 1 wherein

R^1-Ph is 4-aminophenyl, 4-(N-methylamino)phenyl, 4-(N,N-dimethylamino)phenyl, 4-(N-piperidino)phenyl, 4-(N-pyrrolidino)phenyl, 4-(N-morpholino)phenyl, 1-methylindol-5-yl or 1-m or ethyl-2,3-dihydroindol-5-yl or R^1-Ph is the N-oxide of 4-(N,N-dimethyl)phenyl, 4-(N-piperidino)phenyl, 4-(N-pyrrolidino)phenyl, 4-(N-morpholino)phenyl;

X is O, NOH, or $NOCH_3$;

R^6 is H, CH_3, F or Cl;

R^7 is H, methyl, ethynyl, 1-propynyl, 3-propynyl, 3-hydroxypropyl, 3-hydroxy-1-propenyl (*E*- or *Z*-), 3,3,3-trifluropropyn-1-yl, 3-hydroxypropyn-1-yl, $(CH_2)_2COOCH_3$, $(CH_2)_2COOC_2H_5$, $(CH_2)_2COCH_3$, CC-C_6H_5, $CH_2C_6H_5$, CN, or $COOCH_3$;

R^8 is H, CH_3, or $CH_2C_6H_5$; and

R^9 is H, OH, OCH_3, CHO, CH_3CO, C_6H_5CO or $C_6H_5CH_2CO$.

4. The steroid of Claim 2, wherein

R^1-Ph is 4-aminophenyl, 4-(N-methylamino)phenyl, 4-(N,N-dimethylamino)phenyl, 4-(N-piperidino)phenyl, 4-(N-pyrrolidino)phenyl, 4-(N-morpholino)phenyl, 1-methylindol-5-yl or 1-methyl-2,3-dihydroindol-5-yl;

X is O, NOH, or $NOCH_3$;

R^6 is H, CH_3, F or Cl;

R^9 is H, OH, CHO, CH_3CO, C_6H_5CO or $C_6H_5CH_2CO$;

R^{13} and R^{14} are O, (H, H), (H, CH_3) or (CH_3, CH_3); and

R^{15} and R^{16} are (H, H) or R^{15} R^{16} is (=CH_2).

5. The steroid of Claim 1 selected from the group consisting of:

11β-(4-(N,N-dimethylamino)phenyl)-17β-(N-hydroxylamino)-17α-(1-propynyl)-estra-4,9-dien-3-one, 11β-(4-(N-piperidino)phenyl)-17β-(N-hydroxylamino)-17α-(1-propynyl)-estra-4,9-dien-3-one, 11β-(4-(N,N-dimethylamino)phenyl)-17β-(N-hydroxy-N-methylamino)-17α-(1-propynyl)estra-4,9-dien-3-one, 11β-(4-(N-piperidino)phenyl)-17β-(N-hydroxy-N-methylamino)-17α-(1-propynyl)estra-4,9-dien-3-one, 17β-amino-11β-(4-(N,N-dimethylamino)phenyl)-17α-(1-propynyl)estra-4,9-dien-3-one, 17β-amino-11β-(4-(N-piperidino)phenyl)-17α-(1-propynyl)estra-4,9-dien-3-one, 17β-(N-acetamido)-11β-(4-(N,N-dimethylamino)phenyl)-17α-(1-propynyl)estra-4,9-dien-3-one, 17β-(N-acetamido)-11β-(4-

(N-piperidino)phenyl)-17α-(1-propynyl)estra-4,9-dien-3-one, 11β-(4-(N,N-dimethylamino)phenyl)-17β-(N-formamido)-17α-(1-propynyl)estra-4,9-dien-3-one and its N-oxide, 17β-(N-formamido)-11β-(4-(N-piperidino)phenyl)-17α-(1-propynyl)estra-4,9-dien-3-one and its N-oxide, 11β-(4-(N,N-dimethylamino)phenyl)-17β-(N-hydroxylamino)-17α-(3-hydroxypropyl)-estra-4,9-dien-3-one, 11β-(4-(N-piperidino)phenyl)-17β-(N-hydroxylamino)-17α-(3-hydroxypropyl)-estra-4,9-dien-3-one, 11β-(4-(N,N-dimethylamino)phenyl)-17β-(N-hydroxy-N-methylamino)-17α-(3-hydroxypropyl)estra-4,9-dien-3-one, 11β-(4-(N-piperidino)phenyl)-17β-(N-hydroxy-N-methylamino)-17α-(3-hydroxypropyl)estra-4,9-dien-3-one, 17β-amino-11β-(4-(N,N-dimethylamino)phenyl)-17α-(3-hydroxypropyl)estra-4,9-dien-3-one, 17β-amino-17α-(3-hydroxypropyl)-11β-(4-(N-piperidino)phenyl)estra-4,9-dien-3-one, 17β-(N-acetamido)-11β-(4-(N,N-dimethylamino)phenyl)-17α-(3-hydroxypropyl)estra-4,9-dien-3-one, 17β-(N-acetamido)-17α-(3-hydroxypropyl)-11β-(4-(N-piperidino)phenyl)estra-4,9-dien-3-one, 11β-(4-(N,N-dimethylamino)phenyl)-17β-(N-formamido)-17α-(3-hydroxypropyl)estra-4,9-dien-3-one and 17β-(N-formamido)-17α-(3-hydroxypropyl)-11β-(4-(N-piperidino)phenyl) estra-4,9-dien-3-one, 11β-(4-(N,N-dimethylamino)phenyl)-17β-(N-formamido)-17α-(3-formyloxy-1-propyl)estra-4,9-dien-3-one and 17β-(N-formamido)-17α-(3-formyloxy-1-propyl)-11β-(4-(N-piperidino)phenyl estra-4,9-dien-3-one.

6. The steroid of Claim 2, selected from the group consisting of 11β-(4-(N,N-dimethylamino)phenyl)-1'-hydroxy-5'-methyl-spiro[estra-4,9-dien-17β,2'-pyrrolidine]-3-one, 11β-(4-(N-piperidino)phenyl)-1'-hydroxy-5'-methyl-spiro[estra-4,9-dien-17β,2'-pyrrolidine]-3-one, 11β-(4-(N,N-dimethylamino)phenyl)-1'-hydroxy-spiro[estra-4,9-dien-17β,2'-pyrrolidine]-3-one, 11β-(4-(N-piperidino)phenyl)-1'-hydroxy-spiro[estra-4,9-

dien-17β,2'-pyrrolidine]-3-one, 11β-(4-(N,N-dimethylamino)phenyl)-5'-methyl-spiro[estra-4,9-dien-17β,2'-pyrrolidine]-3-one, 11β-(4-(N-piperidino)phenyl)-5'-methyl-spiro[estra-4,9-dien-17β,2'-pyrrolidine]-3-one, 11β-(4-(N,N-dimethylamino)phenyl)-spiro[estra-4,9-dien-17β,2'-pyrrolidine]-3-one, 11β-(4-(N-piperidino)phenyl)-spiro[estra-4,9-dien-17β,2'-pyrrolidine]-3-one, 11β-(4-(N,N-dimethylamino)phenyl)-5'-oxo-spiro[estra-4,9-dien-17β,2'-pyrrolidine]-3-one, 11β-(4-(N-piperidino)phenyl)-5'-oxo-spiro[estra-4,9-dien-17β,2'-pyrrolidine]-3-one, 11β-(4-(N,N-dimethylamino)phenyl)-1'-formyl-spiro[estra-4,9-dien-17β,2'-pyrrolidine]-3-one and 11β-(4-(N-piperidino)phenyl)-1'-formyl-spiro[estra-4,9-dien-17β,2'-pyrrolidine]-3-one.

7. A method of therapeutically treating the activity of progesterone comprising administering a therapeutically effective amount of the compound of Claim 1, to a patient in need thereof for a therapeutic purpose.

8. The method of claim 7, wherein said therapeutic purpose is the treatment of endometriosis or uterine fibroids.

9. The method of claim 7, wherein said therapeutic purpose is cervical ripening preparatory to labor and delivery of offspring.

10. The method of claim 7, wherein said therapeutic purpose is the control or regulation of fertility.

11. The method of claim 7, wherein said therapeutic purpose is the treatment of tumors or cancers.

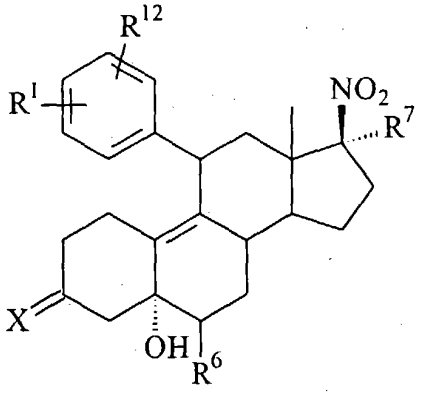
12. The method of claim 7, wherein said therapeutic purpose is hormone replacement therapy.

13. A method of therapeutically treating the activity of progesterone comprising

administering a therapeutically effective amount of the compound of Claim 2, to a patient in need thereof for a therapeutic purpose.

14. A method of preparing the compound of Claim 1, comprising:

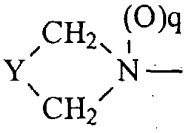
i) treating a compound of structure (III) by reduction of the nitro group, followed by hydrolysis of X and elimination of the hydroxyl group



(III)

wherein

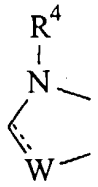
R^1 is $(R^2 R^3 N(O)_r)$-, where r is 0 or 1 and R^2 and R^3 are each independently H, C_{1-6} alkyl, C_{3-8} cycloalkyl, C_{2-6} alkenyl or C_{2-6} alkynyl, any of which may be optionally substituted; or

R^1 is  , where q is 0 or 1, Y is $-(CH_2)_m-$ where m is an integer of 0 to 5, or Y is $-(CH_2)_n-Z-(CH_2)_p-$ where n is an integer of 0 to 2, p is an integer of 0 to 2, and Z is a heteroatom (optionally substituted) and where any of the CH_2 groups may be optionally substituted; or

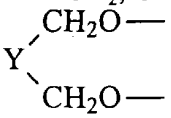
R^1 is N-imidazolyl- N-pyrrolyl-, H, halo-, HO-, CF_3SO_2O-, C_{1-6} alkyl-O-, C_{1-6} alkyl-S-, C_{1-6} alkyl-S(O)-, C_{1-6} alkyl-$S(O_2)$-, C_{1-6} alkyl-CO-, C_{1-6} alkyl-CH(OH)-, NC-, HCC-, C_6H_5CC-, 2'-furyl, 3'-furyl, 2'-thiophenyl, 3'-thiophenyl, 2'-pyridyl, 3'-pyridyl, 4'-pyridyl, 2'-thiazolyl, 2'-N-methylimidazolyl, 5'-pyrimidinyl, C_6H_5-, H_2C=CH-, C_{1-6} alkyl, or $MeC(=CH_2)$-;

R^{12} is H or halo; or

R^1 and R^{12} combine to form a ring



where W is CH_2, CH, NH, N, O, or S, and R^4 is H or C_{1-6} alkyl;

X is  , where Y is $-(CH_2)_m-$ where m is an integer of 0 to 3, or Y is $-(CH_2)_n-Z-(CH_2)_p-$ where n is an integer of 0 to 2, p is an integer of 0 to 2 and Z is a heteroatom (optionally substituted) or Z is a carbon atom substituted with one or two C_{1-6} alkyl groups;

R^6 is H, C_{1-6} alkyl or halogen;

R^7 is H, C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-8} cycloalkyl, C_{6-12} aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl or heteroaralkynyl, any of which may be optionally substituted, CN, $COOR^{10}$ or $CONHR^{10}$, where R^{10} is H, C_{1-18} alkyl, C_{2-18} alkenyl, C_{2-18} alkynyl, C_{3-8} cycloalkyl, C_{6-12} aryl, aralkyl, aralkenyl, aralkynyl, heteroaryl, heteroaralkyl, heteroaralkenyl or heteroaralkynyl, any of which may be optionally substituted.

15. A method of therapeutically treating the activity of progesterone comprising administering a therapeutically effective amount of the compound of Claim 2, to a patient in need thereof for a therapeutic purpose.

16. The method of Claim 7, further comprising administering one or more pharmacologically active compounds.

17. The method of Claim 15, further comprising administering one or more pharmacologically active compounds.